NEMESIS - TCS

Nemesis-TCS 'Traction Control System
Installation manual 749_999
Type - AA

For several years now a professional and well-developed traction control system for motorbikes has only been available to those with larger budgets or a top-level superbike team behind them.

All of this has now changed !!

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Kit components:

Kit part No.	**TCS-749.999.AA**
Application - 749 and 999 including R models. For very early model bikes using coils with integrated connectors and not flying leads you will need an alternative set of coil wiring. Part No. CSW1300	

Speed pick up components	**Part No**	**Checked**	**Qty**
Front left speed bracket	CSD1280		1
Front left axle spacer	CSD1281		1
5 bolt trigger disk assembly	CSP1014		1
Speed sensor	23813030401		1
M8 Washer - Aluminium	CSP1013		5
M6 x 16 Zinc Hex head cap screw - Speed sensor	CSP1019		1

Traction module components	**Part No**	**Checked**	**Qty**
Traction Control Module	TCM		1
Bobbin - Dia 15x15, M5 x12mm	CSP1037		3
TCS carbon mounting plate	CSD1291		1
Mounting spacers and screws x 3 in kit	CSD1292		1
M5 Serrated FlangeNut	CSP1017		6

Wiring	**Part No**	**Checked**	**Qty**
Coil wiring	CSW1294		1
Inputs wiring	CSW1295		1
Throttle link adaptor	CSW1296		1
CAN and power wiring	CSW1297		1

Display module components	**Part No**	**Checked**	**Qty**
Display module	TC-Pod		1
Spacer	CS1258		1
M6 x 40 S/S cap head screw - black	CSP1025		1
SF handlebar adaptor	CS1249		1
M3 x 8 button head - black	CSP1018		2

Miscelaneous components	**Part No**	**Checked**	**Qty**
Cable ties - 200mm x 4mm	CSP1021		16
Printed TCS over view manual			1
Printed TCS 749/999 AA manual			1
Nemesis-TCS stickers	CSP1022		6

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IMPORTANT – To be read by ALL installers and owners

Diagnostic light

The Nemesis TCS directly controls the ignition coils on your bike. If you have a standard, re-flashed or DP ECU on your bike the internal diagnostics will think there is a problem with the coils and activate the diagnostic light on your dashboard. There is no way to avoid this.

Terms of use

The presence of the Nemesis-TCS does not take away the responsibility of the rider to operate the bike correctly within their own abilities, the track conditions and the laws of physics.

The system is designed to achieve greater on-track performance by the use of power modulation during wheel slip events, but in no way should it be considered possible for the system to recover from every conceivable loss of grip. The onus for safety always rests with the rider to stay within his or her own abilities, and to ensure that the 'on-bike' equipment is programmed, setup correctly, and an appropriate TC level selected for the skill of the rider, the bike and the track conditions.

This equipment is intended for racing or track day performance use only and where exhaust emission controls are not applicable.

By installing and using the Nemesis-TCS you automatically indemnify Competition Systems Ltd, our suppliers and our authorised dealers from all first party or third party loss or damages. Normal components warranty is not affected

Battery

It is recommended that the standard battery be used with this system.

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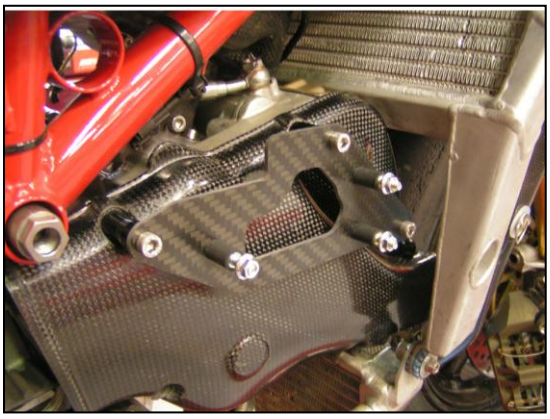
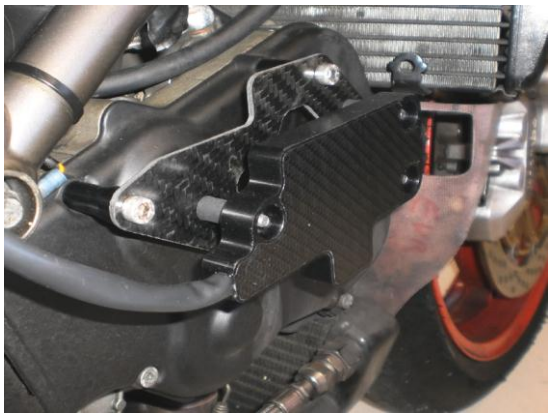
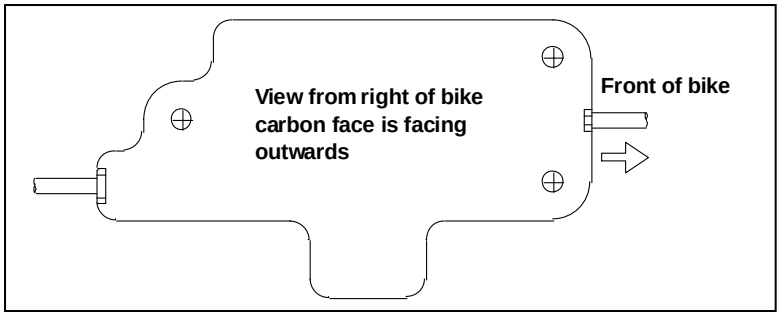
TC Module Mounting:

- Remove the horn and mounting bracket.
- Fit the rubber mounts to the carbon cover using the 3 x M5 holes
- Fit the carbon plate to the right hand horizontal belt cover using the longer screws and spacers provided in the kit.
- Fit the TC Module to the rubber mounts either with the carbon facing inwards as seen in these pictures or with the carbon facing outwards, whichever you prefer. No programming adjustment is necessary for this change in position.
- The wiring should be cable tied to the left and right sub-frame tubes





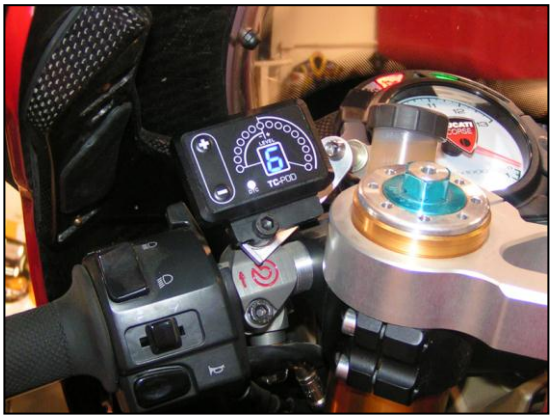
IMPORTANT – If the Module is fitted in an incorrect orientation to the system will not work as it is designed, follow the installation guide exactly



TC-Pod Fitting:

- For installation on the 749/999 you can fit the TC-Pod directly to the clutch master cylinder clamp using the longer bolt, CS1249 adaptor and spacer provided. In this position the rider can access the TC+ and TC- buttons directly. For users who wish to mount the TC-Pod in an alternative location, the CS972 switch assembly may be fitted as an optional extra.

Note that you may need an additional M6 washer to provide extra clearance on the clutch reservoir clamp.



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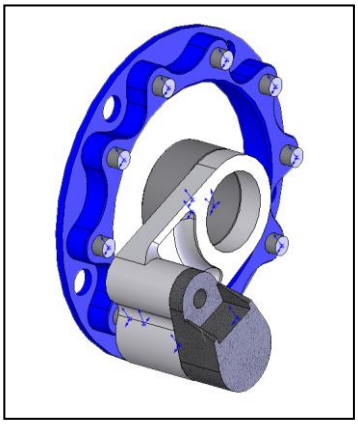
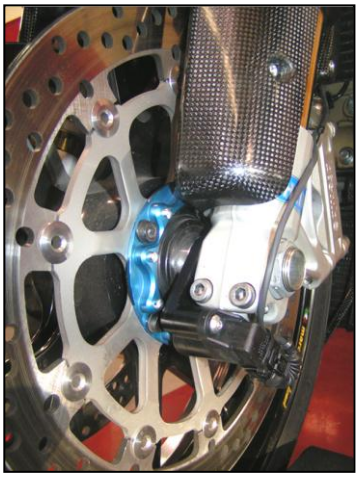
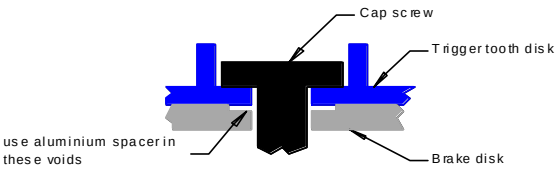
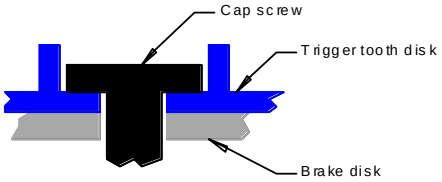
Front Wheel Speed:
Your TCS kit comes with a dedicated 10-tooth trigger disk, sensor, and axle spacer for use on the left side of the bike.





- Remove the front wheel from the bike
- Remove the 5 bolts that secure the left brake disk in place
- If your brake disks have small sunken rebates in their surface to accommodate the bolt heads, these must be filled using the 5 aluminium washers provided. Failure to do this will distort the trigger disk and more importantly may cause the brake disk to come loose in service - **See images below**
- Fit the new blue trigger disk using the original bolts and secure using the recommended thread lock agent and tightening torque
- Ensure that the trigger disk is sitting flush against the brake disk
- Re-fit the wheel, replacing the standard spacer with the new thinner spacer and sensor mounting
- The sensor gap is fixed and no adjustment is required by the user. The design gap is between 1mm and 2.5mm
- The sensor maximum range is 4mm for this trigger disk and 6mm for other larger targets, therefore no other ferrous objects should be installed anywhere near this equipment.
- The sensor bracket can be fitted at any angle relative to the fork - this makes no difference to the measurement





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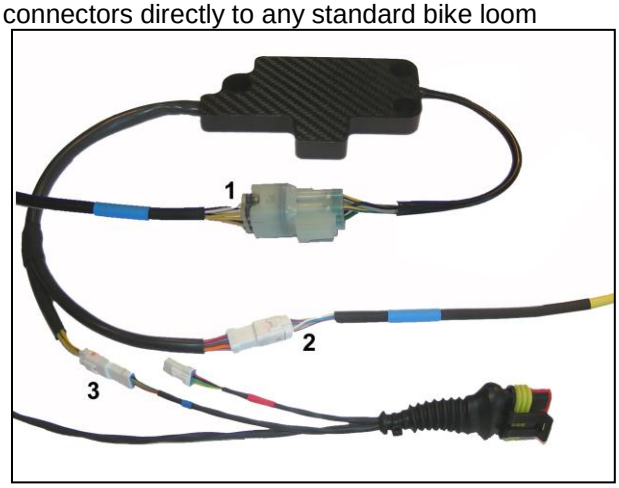
WIRING – IMPORTANT – Do not connect any of the three TCS connectors directly to any standard bike loom connectors (even if they fit). These 3 connectors must only be linked to the blue-banded connectors of the wiring we supply. Damage to the equipment or bike components may occur if this rule is ignored.



Coil Wiring

Locate the wiring loom with yellow identification - CSW1294.

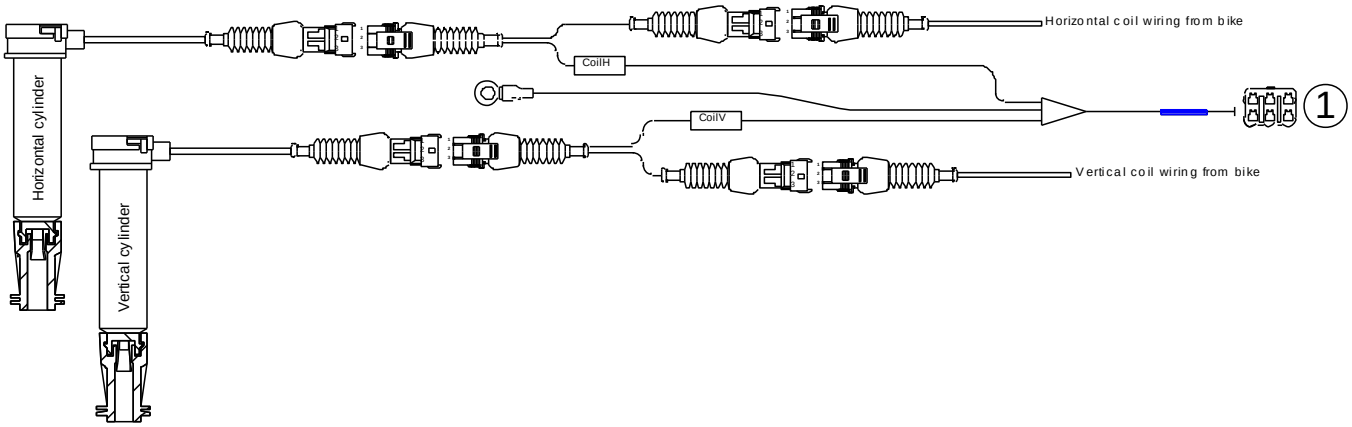
Connect the 6 way connector with the blue banding to connector **1** of the TC Module and route the wire under the back of the airbox to the far side of the bike where it can be connected to the vertical cylinder. The Horizontal cylinder connector is located just above the TC module

Disconnect the loom wiring from the horizontal coil and use the CSW1294 wiring loom to bridge the gap as shown below

Disconnect the loom wiring from the vertical coil and use the CSW1294 wiring loom to bridge the gap as shown below.

Should it ever be necessary to isolate all TCS functions and return the bike to normal operation, simply remove these links and re-connect the coils back to their original loom connections.

IMPORTANT – This wiring loom has a 6mm eyelet for direct connection to battery negative. This must not be fastened to any other ground location only battery negative.



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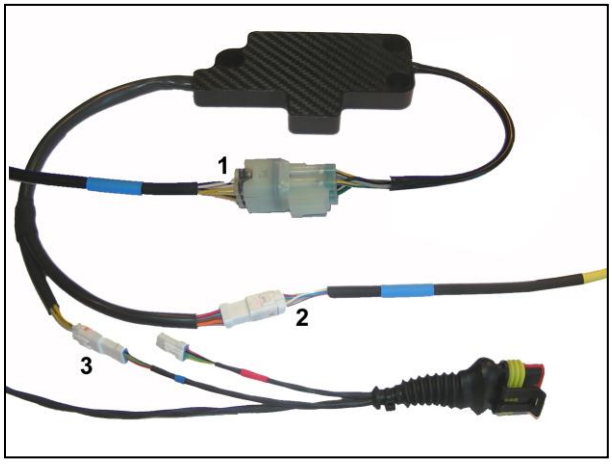
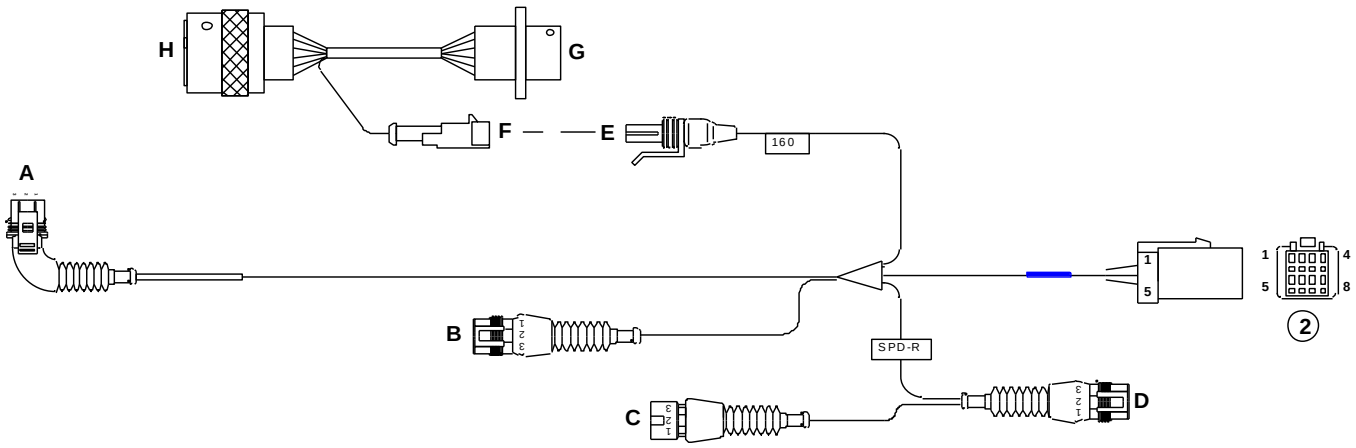


Inputs wiring

Locate the wiring loom with yellow identification - CSW1299.

- Disconnect the 8 way round plug from the back of the airbox and reconnect it to **G**
- Connect **H** to the airbox. You have now formed a bridge with a single wire **F** exiting which is the throttle signal wire.
- Route the wiring loom under the back of the airbox from left to right, then connect the 8 way connector with the blue banding to connector **2** of the TC Module.
- Connect **E** to **F** , Throttle signal wires.
- Disconnect the loom wiring from the rear speed sensor and use **C** and **D** to bridge the gap as shown below, this feeds the rear speed signal into the TC module
- **B** is the input for quick shifter, refer to system manual for connection pinouts
- Route the front speed wire **A** along the left side of the bike and connect to the sensor



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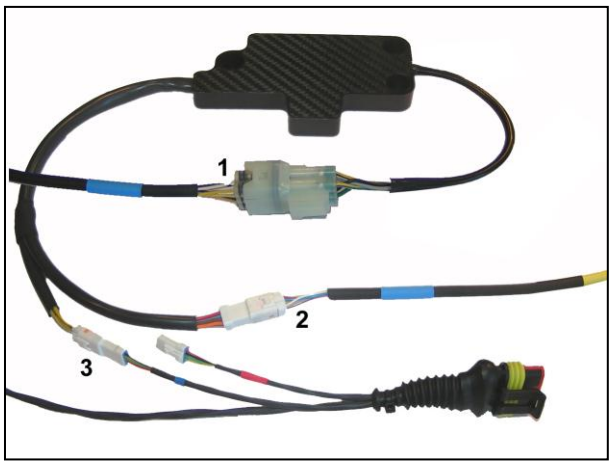
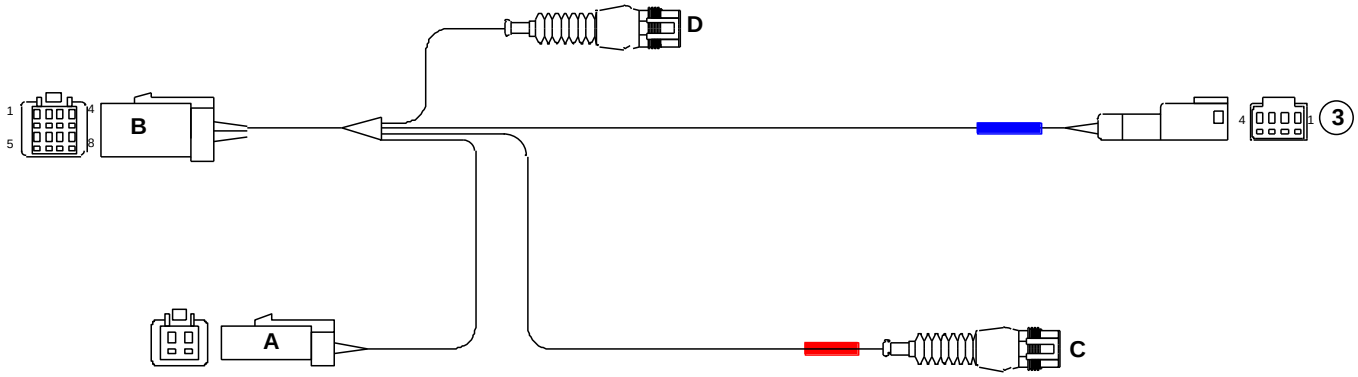
CAN and Power Wiring

- Locate the wiring loom with yellow identification - CSW1297.
- Locate the 4 way connector with the blue band on the new TCS wiring loom, route it from left to right under the back of the airbox and connect it to connector 3 of the TC Module. Now route this wiring up the left side of the bike
- On the bike, locate the 3 way plug used for the lap timer (just to the right of the headstock) and connect it to connector **C** with the red band
- The 4 way black AMP connector **D** is used as the connection point for the WinTC USB adaptor so can be left in any suitable position near the headstock.
- Connect the 8 way **B** connector to the TC-Pod display.
- Connect the Pit limiter input **A** to a suitable momentary 'normally open' switch if required.





PC Setup

Your TCS module should be loaded with the following maps:

111_749_3_Sxx_Rxx.S19
or
111_999_3_Sxx_Rxx.S19

Sxx – Slip map version
Rxx – revision version

Status position offset value – 0.3 to 0.4 – Refer to **WinTC View Data**

Note : The WinTC installation guide can be found in the Nemesis-TCS manual.

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